



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Consumer Preference for Sampling at Farmers Markets

Lijun Chen

Visiting Scholar

Department of Agricultural & Applied Economics

University of Missouri

327 Mumford Hall

Columbia, MO 65211

Email: chenlij@missouri.edu

[Presenting Author]

Joe L. Parcell

Professor

Department of Agricultural & Applied Economics

University of Missouri

202 Mumford Hall

Columbia, MO 65211

Email: parcellj@missouri.edu

Jill A. Moreland

Instructor

Department of Agricultural & Applied Economics

University of Missouri

203 Mumford Hall

Columbia, MO 65211

Email: morelandj@missouri.edu

Selected paper prepared for presentation at the Southern Agricultural Economics Association (SAEA) Annual Meeting, San Antonio, Texas, 6-9 February 2016

© 2016 by Lijun Chen and Joe L. Parcell. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided this copyright notice appears on all such copies

Consumer Preference for Sampling at Farmers Markets

Abstract: From a survey of farmers' markets shoppers, this study aims to investigate the factors that differentiate samplers and non-samplers, factors that motivate and discourage consumers to take free samples presented by vendors, and estimate to what extent sampling affects consumer behavior and perceptions about products. A survey questionnaire was conducted yielding 1145 usable responses. A simultaneous equation model and exploratory factor analysis assessment was conducted. Results show that consumers' trust in farmers' markets food system have a significant impact on sampling decisions, and affiliation towards persons distributing samples motivate consumers to sample. The post sampling effect can be reflected by consumers' immediate purchase, generating word of mouth and an increase in unplanned purchase.

Keywords: Sampling, Farmers' Markets, Consumer Preference

Consumer Preference for Sampling at Farmers Markets

Consumers are adopting the habit of buying local. Farmers' markets are the consumers' option of choice to buy local for over the past thirty years. In the last few years, the number of farmers markets across the America increased rapidly, USDA's National Farmers Market Directory listed 8,268 markets by August 2014, an increase of 76 percent since 2008 (USDA). Researchers show that vendors' sales at farmers' markets make up a significant portion of their income, especially for retired farmers and small sized farmers. Results of a 2006 farmers' markets survey show average per vendor sales of \$7,108 and farmers' market sales as the sole source of farm income for 25% of vendors (USDA, 2006).

In order to increase vendors' revenue in farmers' markets and improve community economy, vendors need the expertise of promotion. Typically, farmers' markets vendors have many options when promoting their foods including: labeling "organic" and "local" products, displaying their farm stories, sharing recipe cards, suggesting complementary products, and distributing brochures (Cowee, Curtis, & Gatzke, 2009). A marketing strategy recently adopted by vendors of farmers' markets is sampling¹. Sampling allows for a bundle of marketing strategies to promote products. Sampling, for example, allows one to experience a recipe card and be introduced to complementary products. This allows consumers to learn about the item through sensory experience (Marks & Kamins, 1988). In return, the sensory experience helps introduce new products, improve product image (Bettinger, Dawson, & Wales, 1979) and generate word of mouth advertising (Meyer, 1982). Free samples presented at the point of purchase (POP) have an even greater impact on purchasing behavior, both on

¹Adoption of sampling is often constrained by state-level health ordinances.

short term and long term purchasing habits of shoppers (Heilman, Lakishyk, Radas, & Nakamoto, 2004). As a result of trial of free sample, consumers' behavior towards products, brands and even markets may change if the experience is positive (McGuinness, Gendall, & Mathew, 1992).

Empirical studies on sampling are diffused on different markets such as grocery stores and supermarkets, and on different areas such as software and fragrance. As for farmers' markets, we are aware of no research analyzing sampling as a promotion technique. Our study focuses on sampling of food products presented in a farmers' market setting. The purpose of our study is: 1) to examine factors that motivate consumers to take free samples presented by vendors and factors that discourage consumers to take free samples presented by vendors, and 2) to estimate what extent sampling affects consumer behavior and perceptions about products, vendors, and farmers' markets. Our data set of 1145 usable responses was collected through an electronic survey of farmers' market attendees. Our study provides valuable insights into the use of sampling as a marketing mix to promote food products at farmers' markets.

Previous Research

Farmers' markets have played a critical role in helping small-size and medium-size farmers gain access to consumers directly, and sales from farmers' markets can be a crucial component or supplement of farmers' income (Kezis, Gwebu, Peavey, & Cheng, 1998). The increasing popularity of farmers' markets is owed to the consumers increasing demand for fresh, local, and organic produce, and it also leads to an increase in research about promotion methods at farmers' markets, which provide useful insights for vendors to improve their

marketing tactic and sales income (Kezis et al., 1998; Marianne M Wolf, Spittler, & Ahern, 2005). A survey of Indiana farmers' markets vendors found that the majority of vendors keep farming as their full-time occupation (Brown & Miller, 2008). A study of farmers' markets in 2000 by the USDA showed 19,000 farmers use farmers' markets as their sole marketing outlet (Payne, 2002). On the other hand, farming can also be a part-time activity, providing only supplemental income to many vendors, who reported produce sales less than \$5,000 in an Iowa study (Varner & Otto, 2008). Farmer-vendors are responsible for their individual promotional campaigns because of the importance to make direct sales to overall revenue (Kohls & Uhl, 1972). Researchers found that the long-term viability of the farmers' markets increased when promotion activity is incorporated, especially when a part-time marketing coordinator is hired (Conrey, Frongillo, Dollahite, & Griffin, 2003).

Promotion helps consumers generate perception and awareness of the product and persuade consumers to buy it as an important component of marketing mix (Marianne McGarry Wolf, 1997). In farmers' markets, there is a variety of promotion methods applied to increase sales, recruit new customers, build vendors' images, etc. Promotions involving free gifts were proved to increase purchase likelihood when the decision is affective, but to decrease purchase likelihood when the decision is cognitive with uncertainty (Laran & Tsiros, 2013). Besides, the application of promotional tools needs to take price effect into consideration. In promotion of a special category such as organic food, consumers are less price-sensitive and more brand-sensitive, and sales promotion might increase the perceived risk when product quality is uncertain (Ngobo, 2011). Providing coupons to consumers help create a more direct marketing opportunity for vendors (Balsam, Webber, & Oehlke, 1994).

Yet, researchers found the effectiveness of a coupon is comparable to a price discount (Dong, 2010). As for advertising, it is a common strategic planning for a farmers' market venues to use vendor fees for attracting consumers in ways such as road signs, flags, and other media (Baker, Hamshaw, & Kolodinsky, 2009). Most of these promotional tools may have intrinsic disadvantages, for advertising has a cost that cannot be ignored, pricing strategies have different impacts on consumers, and coupons may be less effective because of delays in reimbursement (Suarez-Balcazar, Martinez, Cox, & Jayraj, 2006).

Sampling is a unique element in the marketing mix and appears to have increased in recent decades. Sampling has also proved to be effective in different market types such as grocery stores (Heilman et al., 2004), shopping malls (Freedman, 1986), perfume, skin care, and make up (Amor & Guilbert, 2007), information goods, and software (Dey, Lahiri, & Liu, 2013; Wyss & Jorgensen, 1998), and in aspects such as intangible traits of brand image (Amor & Guilbert, 2007), word of mouth (Holmes & Lett, 1977), etc. Nevertheless, there are few studies on sampling at farmers' markets that can provide meaningful insights.

Methods and Empirical Findings

A survey on sampling at farmers' markets was carried out via Survey Monkey and Research Now online. Survey respondents answered questions related to location, demographic information, trust in farmers' markets, factors that encourage consumers to sample, factors discouraging consumers from sampling, and reactions to sampling. The questionnaire distinguishes 939 respondents willing to sample and 206 respondents unwilling to sample.

Willingness to Sample

Inspired by prior research related to demographic characteristics tied to consumers involvement with purchasing habits (Quester & Smart, 1996; Slama & Tashchian, 1985), we became interested in whether personal characteristics and shopping behaviors will differentiate “samplers” and “non-samplers” (Heilman, Lakishyk, & Radas, 2011). The information shown in Table 1 is summary statistics for both samplers and non-samplers.

We conducted a test of means between samplers and non-samplers, shown as p-values, in the following discussion. Four demographic characteristics were found to be statistically different between non-samplers and samplers. Respondents willing to sample are more likely to possess a bachelor’s degree ($p < 0.1$) and higher household income ($p < 0.05$), which indicates that consumers with higher education level and higher household income may be more willing to take part in the promotion of sampling. Meanwhile, the assumed effective factor of social capital is measured by the number of internet-based ($p < 0.1$) and non-internet-based social organizations ($p < 0.01$) a respondent belongs. This suggest that internet-based social organizations (e.g., Facebook) and non-internet-based social organizations (e.g., church) have a positive influence on consumer decision to sample or not. The more social organizations a consumer is involved, the more he or she is likely to take the sample. Consumers shopping behavior also contribute to differentiate samplers from non-samplers. Samplers are likely to shop more frequently ($p < 0.05$) and eat out more often ($p < 0.05$). Consumers who eat out more may find sampling as a curiosity to enjoy new foods.

We assume that demographic characteristics, shopping behaviors, and consumers’ trust in

farmers' markets food system may have an impact on consumers' willingness to sample. The survey design required respondents to compare their trust in farmers' markets with grocery stores, with scores for seven discrete variables including food labels, certifications, fair price, traceability, safety, quality, and word of mouth. And mean value of these seven variables is defined as "TRUST". Following, we note that demographic characteristics may affect consumers' trust scores, which cause the three aspects to share a complex interaction with each other. Considering the dependent variable as a discrete choice variable of sampling (=1) or not sampling (=0), a Simultaneous Equation Model was specified to analyze this assumption (Amemiya, 1978), allowing for the endogeneity of TRUST (Cai, 2010).

Table 1. Summary Statistics

Name	Variable Description	Non-sampler	Sampler
G	%Females	11.00%	46.81%
A	Age of respondent (1= Younger than 18, 2=18-27, 3=28-37, 4=38-47, 5=48-57, 6=58-67, 7=68 and older)	2=4.85% 3=18.45% 4=17.48% 5=18.93% 6=26.21% 7=14.08%	2=6.60% 3=16.83% 4=15.23% 5=21.62% 6=27.80% 7=11.93%
WC	Self-selected weight category (1=Underweight, 2=Average, 3 = Overweight, 4=Obese)	1=2.91% 2= 53.40% 3= 41.75% 4= 1.94%	1=2.34% 2=54.85% 3=40.47% 4=2.34%
E*	% with Bachelor's Degree or higher	69.93%*	74.76%*
HS	Household size (1=No more than 2 people, 2=3-4 people, 3=5-6 people, 4=7 or more people)	1=67.96% 2=25.24% 3=6.31% 4=0.49%	1=65.60% 2=28.01% 3=5.54% 4=0.85%
HI**	Household income (\$s) (1= Less than \$25k, 2= \$25-50k, 3=\$50k-100k, 4=\$100-150k, 5= More than \$150k)	1=6.31% 2=18.93% 3=47.09% 4=18.93% 5=8.74%	1=5.11% 2=17.15% 3=43.02% 4=22.58% 5=12.14%
CH	Children in household under 18 (1=None, 2=1-2, 3=3-4, 4=More than 4)	1=74.27%2=21.84% 3=3.40% 4=0.49%	1=72.95% 2=22.68% 3=3.83% 4=0.53%
ISO*	Average internet-based social organization in the past year	1.90*	2.05*
NISO***	Average non-internet-based social organizations in the past year	1.26***	1.54***

ST**	Monthly shopping visits to (1=Weekly, 2=2-3 times per months, 3=Once a month)	1=53.40% 2=34.47% 3=12.14%	1=47.82% 2=35.57% 3=16.61%
DTF	Distance to nearest farmers' markets(1=Under 2 miles, 2=2-5 miles, 3=6-9 miles, 4= More than 10 miles, 0= I don't know)	1=3.40% 2=23.79% 3=37.38% 4=21.36% 0=14.08%	1=0.75% 2=20.98% 3=41.11% 4=23.54% 0=13.63%
ET**	Weekly eat-out times (0=Never, 1=1-3 times, 2=4-6 times, 3=7 or more times)	0=8.25% 1=79.13% 2=12.14% 3=0.49%	1=4.79% 2=80.62% 3=12.57% 4=2.02%

Notes:*Statistically different at $p<0.1$; **Statistically different at $p<0.05$; ***Statistically different at $p<0.01$; G, A, WC, E, HS, HI, CH, ISO and NISO are demographic characteristics, ST, DTF and ET are shopping behaviors.

We are not studying the willingness to sample, but the behavior of sampling or not sampling. So, we extracted the six direct factors that lead consumers to take or reject free samples into the first equation as listed in Table 2 and Table 3 below, which are extracted from five-point Likert Scales discussed in the next session. For expositional simplicity, the bulk of conceptual analysis here is conducted for two equation systems (Heckman, 1977) as follows:

Equation 1:

$$SAFM_i = \alpha_1 + (\beta_1 * WTK_i + \beta_2 * HT + \beta_3 * SF_i + \beta_4 * TFS_i + \beta_5 * FDP_i + \beta_6 * IIV_i) + \beta_7 * TRUST_i + (\beta_8 * ISO_i + \beta_9 * NISO_i) + (\beta_{10} * ET_i + \beta_{11} * DTF_i)$$

Equation 2:

$$TRUST_i = \alpha_2 + (\rho_1 * G_i + \rho_2 * A_i + \rho_3 * WC_i + \rho_4 * E_i + \rho_5 * HS_i + \rho_6 * CH_i + \rho_7 * HI_i) + (\rho_8 * ST_i + \rho_9 * ET_i + \rho_{10} * DTF_i) + (\rho_{11} * ISO_i + \rho_{12} * NISO_i)$$

All abbreviations of variables can be seen in Table 1. Equation 1 is specified to include all possible factors that impact consumers to take the free sample or not, and equation 2 is specified to include all possible characteristics and factors that influence consumers' trust in farmers' markets food system. The α_1 and α_2 are the constants of two equations.

A 3SLS estimator was used allowing for sampling (equation 1) and trust (equation 2) to

be endogenous variables. The estimated coefficients and level of significance are presented in Table 2.

Table 2. Simultaneous Equation Model with 3SLS

Sampling			Trust	
Common elements directly affect sampling decision	WKT	0.142***	G	-0.077**
	HT	-0.020*	A	-0.040***
	SF	0.073***	WC	0.004
	TFS	0.044***	E	-0.035
	FDP	-0.016	HS	-0.029
	IIV	-0.063***	CH	0.045
	TRUST	0.182*	HI	-0.025
	ISO	-0.005	ISO	0.038**
	NISO	0.018**	NISO	0.003
	ET	0.03	ST	0.092***
	DTF	0.019*	ET	-0.011
	CONS	-0.323*	DTF	-0.039**
			CONS	2.385***

Notes:*Statistically different at $p < 0.1$; **Statistically different at $p < 0.05$; ***Statistically different at $p < 0.01$

For the sampling model (equation 1), eight significant explanatory variables were found. The variable TRUST has the highest impact on the choice to sample, which indicates an improvement in consumers' trust in FM food systems could increase the probability to sample. The six common elements that affect a consumer's decision to sample are all significant except the friendliness of the person offering the sample (FDP). The FDP is less important in a consumer's decision to sample. An increase in the number of non-internet social organizations (NISO) has a positive effect on a consumer's choice to sample. Perhaps, consumers belonging to more non-internet social organizations have a higher interest of interacting with FM vendors, and consequently such interactions as talking with vendors

about seasonal foods and new recipes have a positive effect on sampling (Hunt, 2007). Shoppers traveling a farther distance to visit farmers' markets (DTF) is positively related to the travel cost theory. Consumers who travel farther to shop at a FM's have higher search costs, so experiencing the food product is important to ensure the shopping experience has both hedonic value and utility value (Babin, Darden, & Griffin, 1994).

The variable trust (TRUST) is an endogenous variable, and the level of trust is explained primarily by five explanatory variables. Shopping frequency (ST) has the highest positive effect on trust. Consumers frequenting FM's more often have a higher trust in the FM food system. An increase in distance to farmers market (DTF) is negatively related to shopper's trust in the FM. This finding supports the proliferation of FM's, demonstrating the closer the FM, the greater consumer trust and the more frequent one is to shop at the farmers' market. This relates to increasing demand for local food that consumers trust more in food markets surrounding his or her living space (Katchova & Woods, 2011).

Age and gender both have a negative coefficient and significantly influence respondent trust in FM food system. These findings indicate that male respondents and younger respondents tend to hold more trust in FM products. As the number of internet-based social organizations one belongs to increases, a consumer has a higher tendency to trust the FM's food system. This result quantifies why FM's have developed online social networking presence to not only increase awareness of the market, but to build trust between consumers and vendors.

Motivations for sampling

In addition to measuring sampling behavior from personal determinants, we were

interested in specific reasons farmers' market shoppers may accept free samples. Respondents were ranked on a five-point Likert scale based on their agreement with the list of direct motivations to sample, as shown in Tables 3. The six direct factors that influence sampling decision are included in Equation 1.

Table 3 Scale A: Samplers' response to the question, "Please rank the following statements which explain what motivates you to try free samples"

Name	Motivations to take free samples	Mean ^a	SD
WKT ^b	I want to know how it tastes	4.34	0.73
FDP ^b	The person distributing samples is friendly	3.71	0.76
ES	I enjoy sampling products	3.89	0.80
FOL	When I see others sampling, I follow their lead	3.08	0.97
HT ^b	I was hungry/thirsty at that time	3.00	1.02
SV	I want to support the vendor	3.71	0.82
APD	The presentation/display of samples is appealing	3.75	0.78
IIV ^b	I feel involved when interacting with vendors	3.57	0.85
SPFS	The samples are free	3.82	0.87
SF ^b	Familiarity with the product	3.66	0.82
TFS ^b	I trust food sanitation/safety	3.63	0.81

Note: N (sample size, similarly hereinafter) =939; M (retained variables, similarly hereinafter) =11; ^a5-point Likert Scale with 1 for "Strongly Disagree" and 5 for "Strongly Agree"; ^bthe six direct factors influence sampling decision; Cronbach's Alpha is 0.829; Kaiser-Meyer-Olkin (KMO) Measure=0.872, Bartlett's Test of Sphericity (p Value)=0.000

We performed exploratory factor analysis (EFA) to decompose variables into a more meaningful and manageable level and examine the structure or relationship between these motivations with the principal component method and varimax rotation (Heilman et al., 2011). First, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of sphericity, shown in footnote Table 3, are supported in Murtagh and Tabachnick (Murtagh & Heck, 2012). Next, factor extraction decisions based on simultaneous use of multiple decision rules were conducted following Kaiser's criteria (eigenvalue > 1 rule), and the cumulative percent of variance extracted (Williams, Brown, & Onsmann, 2012).

Three factor categories could be extracted from 11 variables (Table 4), and they explained 58.1% of total variance commonly accepted in humanities science (Williams et al., 2012). Column 5 is the comprehensive value, which indicates that the model explains a reasonable proportion of the variance in each variable, which is communality (Klopčič, Hocquette, Kuipers, & ebrary, 2013). A value less than 0.4 is considered unacceptable. Column 4 comprehensive values shows all variables carry the acceptable communality (Paul & Rana, 2012).

Table 4. Rotated Component Matrix and Extracted Factors of Scale A

Variable	Affiliation Motivation	Passive Motivation	Utilitarian Motivation	Communality
SV	0.765	0.181	-0.003	0.618
APD	0.682	0.201	0.198	0.545
IIV	0.672	0.309	0.104	0.558
SF	0.603	-0.020	0.245	0.424
FDP	0.556	0.303	0.301	0.491
TFS	0.539	-0.051	0.377	0.436
HT	0.059	0.811	0.092	0.669
FOL	0.282	0.761	0.043	0.660
WKT	0.198	-0.100	0.821	0.724
ES	0.203	0.379	0.670	0.633
SPFS	0.205	0.484	0.595	0.630
Eigen-value	4.166	1.205	1.016	
% variance explained	37.9%	11%	9.3%	58.1%

Note: Rotation converged in six iterations

The first factor explains 37.9% of total variance and captures personal emotions towards sampled products and vendors, which was labeled “Affiliation Motivation”. Consumer interaction with the person distributing samples has a mean value of 3.7 (see Table 3), which indicates that positive affiliation towards involved persons are commonly recognized to motivate consumers to sample. The other 3 variables APD, SF, and TFS, describe consumers’ satisfaction about the product itself, display and presentation, and sanitation and safety, which

provides the understanding that offering a favored product sample in an appealing and sanitary way will simulate consumers to sample.

The second factor captures a passive situation a consumer was in when he or she took the free sample. This was labeled “Passive Motivation”. It explains the reason why a consumer who takes samples is perhaps not intentionally, but is affected by realistic conditions, such as hunger or influence by others. This motivation had the lowest mean of 3.00 (see Table 3), which indicates that providing samples around lunch time is an ineffective sampling strategy, or that depending on word of mouth for a sampling experience is an unrealistic expectation.

The last factor is “Utilitarian Motivation”. Sampling enables consumers to have access to taste the product prior to purchase. Some consumers take the free samples because of the pleasure of sampling and not because of interest in the product. The variable ES also has a high score of 3.89 (see Table 3). This finding indicates that sampling may be a shopping habit expected and not so much about trying a new product prior to purchasing. Thus, sampling may attract consumers to a vendor not to purchase the item being sampled, but to cause the consumer to stop at the vendor’s booth.

Why not sample?

To measure specific reasons farmers’ market shoppers may reject free samples, respondents were ranked on a five-point Likert scale based on their agreement with the list of direct discouragements to sample as shown in Table 5. The six direct factors that influence sampling decisions in Equation 1 are included.

Following the same procedures employed in the previous scale, an EFA was performed to estimate dimensions of factors discouraging consumers to sample. In the rotated

component matrix shown in Table 6, four factors were extracted from the eleven items.

Table 5 Scale B: Non-samplers' response to the question, "Please rank the following statements which explain what discourage you from trying free samples"

Name ^c	Name	Discouragements to take free samples	Mean ^a	SD
WKT	RTU ^b	I don't want to take the risk to taste an uncertainty	2.40	0.98
	IH	I was in a hurry	2.83	1.01
HT	NH ^b	I was not hungry/thirsty	2.93	1.02
	CB	The booths are too crowded	3.00	1.03
SF	EPI ^b	I know enough information about the product	3.17	0.89
TFS	FSC ^b	I am concerned about food sanitation/safety	2.89	1.10
FDP	UFDP ^b	The people distributing samples seem unfriendly	2.44	0.93
IIV	UIV ^b	I feel uncomfortable when I interact with vendors	2.35	1.01
	PTB	I feel pressure to buy the product if I sample it	2.86	1.16
	NIP	I have no interest in the product	3.10	0.95
	UP	The price is unreasonable	2.91	0.93
	UAS	Samples aren't available	3.76	0.99

Note: N=206; M=11; ^a 5-point Likert Scale with 1 for "Strongly Disagree" and 5 for "Strongly Agree"; ^b the six direct factors influence sampling decision; ^c indicate the counterpart variables in samplers' scale; Amended Cronbach's Alpha is 0.801 (without variable UAS); Kaiser-Meyer-Olkin (KMO) Measure=0.745, Bartlett's Test of Sphericity (p Value)=0.000

Table 6. Rotated Component Matrix and Extracted Factors of Scale B

	Passive Rejection	Risk Rejection	Exogenous Factor Rejection	Psychological Rejection	Communality
NH	0.792	0.167	0.210	0.155	0.723
IH	0.738	0.141	0.290	0.187	0.683
EPI	0.614	0.156	-0.102	-0.062	0.416
CB	0.517	0.118	0.369	0.229	0.470
FSC	0.197	0.826	0.026	0.005	0.722
RTU	0.314	0.688	0.017	0.169	0.601
UFDP	0.003	0.627	0.482	0.238	0.683
UP	0.038	0.179	0.796	0.104	0.679
NIP	0.272	-0.062	0.743	0.026	0.631
PTB	0.199	-0.029	0.093	0.872	0.809
UIV	0.036	0.314	0.099	0.809	0.763
Eigen-value	3.764	1.214	1.168	1.034	
% variance explained	34.222	11.032	10.622	9.395	65.272

Note: Rotation converged in six iterations

The first factor was labeled “Passive Rejection” since four items that load significance on this dimension present the situation that consumers reject free samples passively. The most typical reason seems to be EPI with highest mean, which proposes that vendors had better focus on food products that are less frequently considered easy to sample. These products trigger shopper curiosity, i.e., every consumer knows the flavor of a cucumber but not every shopper knows the flavor of a cucumber with a unique dressing applied.

The second factor captures consumers’ sense of “risk aversion”, including worries for uncertainty to taste new food, and food sanitation and unfriendly vendor, so it was labeled “Risk Rejection”. Among which FSC has the highest score, as food safety and food borne disease are a concern. This variable set emphasizes the importance that the vendor assumes all liability, and furthermore, sampling systems may have more value than individual vendors that offer sampling. Besides, food–neophobia gradually is reaching a wide range of consumers (Dolgopolova, Teuber, & Bruschi, 2015), so RTU may suggest vendors take it into consideration when deciding which product to sample.

The third factor, “Exogenous Factor Rejection,” represents why consumers might reject a free sample because of other connected aspects and not the act of sampling itself. Price is an example of an exogenous factor. This finding offers more credence to why a FM may set up a centralized sampling booth instead of allowing individual vendors to provide samples. This can allow consumers to feel more comfortable without exogenous factors coming into to play. Shoppers can then go to individual vendors without a negative disposition of seeing factors not appealing to the consumer.

The last factor was labeled “Psychological Rejection” for it referred to psychological activities that cause consumers to reject samples, mainly including psychological barriers to interact with vendors and the apprehension to sample due to the perceived obligation to purchase.

The final column of Table 5 indicates that the combined scale has a relatively low score in comparison with Scale A, we considered two reasons accounted. First, typically it is easier for people to rank why you accept something than to rank why you don’t like something. Second, consumers’ reasons about why to reject a free sample vary in different dimensions, and are not as convergent as Scale A.

Reactions to sampling

Sampling activity may be positively correlated with consumers’ short- and long-term purchasing behavior (Heilman et al., 2011). We show the average of a 5-point Likert Scale to investigate consumers’ reactions or responses to sampling as shown in Table 7.

Table 7 Scale C: Samplers’ response to the question, “Please rank the following statements which describe your reactions after having tried free samples at farmers’ markets”

Name	Reactions to Sampling	Mean ^a	SD
PPS	I will buy the product because I planned to prior to the sample	3.55	0.88
ETS	I will buy the product because I enjoyed the sample	3.98	0.68
BODP	I will buy other products from this vendor I didn't plan to prior to sampling	3.55	0.76
	I will switch my shopping to this vendor from other vendors who don't offer		
SSTV	samples	3.08	0.89
IPFM	I will increase my purchases from this FM	3.52	0.76
RPTF	I will recommend the sample products to family or friends	3.86	0.71
RVTF	I will recommend the vendor to family or friends	3.86	0.7
RFTF	I will recommend the FM to family or friends.	3.98	0.68
PLR	The price is less relevant.	3.17	0.91

Note: N=939; M=9; ^a5-point Likert Scale with 1 for “Strongly Disagree” and 5 for “Strongly Agree”; Cronbach’s Alpha is 0.825; Kaiser-Meyer-Olkin (KMO) Measure=0.862, Bartlett’s Test of Sphericity (p Value)=0.000

After the first, EFA was performed to Scale C, the variable PPS got a quite low communality of 0.1 and PLR got a communality of 0.246. Considering PPS describes the circumstance that consumer will buy the product as planned no matter he samples or not, we removed the item since it cannot affect reactions to sample. In this way, a second EFA was performed. Results showed the variable PLR can reach a high communality of 0.963 only if it is extracted as a single factor. However, at least two variables should load on one factor so it can be given a meaningful interpretation traditionally (Williams et al., 2012). Under this circumstance, we performed a third EFA with PLR also removed, and the loadings of seven items shown in Table 8.

Table 8. Rotated Component Matrix and Extracted Factors of Scale C

Name	Affective Reaction	Practical Reaction	Communality
RVTF	0.881	0.209	0.820
RFTF	0.863	0.166	0.772
RPTF	0.841	0.244	0.766
ETS	0.621	0.306	0.480
SSTV	0.055	0.894	0.802
IPFM	0.348	0.727	0.649
BODP	0.382	0.549	0.447
Eigen-value	3.71	1.03	
% variance explained	52.95	14.71	67.66

Note: Rotation converged in three iterations

Two factors are extracted. The first factor had high coefficients for the following variables ETS, RVTF, RFTF and RPTF, and each of the four have a high mean of more than 3.86 (see Table 7). ETS has the highest mean to account purchase for enjoyable sampling experience. Meanwhile, RVTF, RFTF and RPTF describe how consumers generate a word-of-mouth, which also indicate when consumers' participation in an enjoyable sampling activity may lead to affective reaction first. That is why we labeled the first factor as

“Affective Reaction”.

The second factor was labeled “Practical Reaction” for SSTV, IPFM and BODP captures direct purchase behavior in response to sampling, especially it give us the empirical proof that a satisfied sampling will attract unexpected additional purchase both in the vendor and the FM.

As for the item of PLR removed from EFA, we can draw two notifications. Firstly, it has a relatively low mean 3.17 (see Table 7) of whole Scale C, which reflects that sampling as a promotion tool does really have the ability to make price less relevant, but the ability is not that powerful. Secondly, it indicates that maybe there exists a defect in our scale that more items relate to consumers’ perception about price after sampling need to be added, which will add robust to scale’s structure and we can conduct a more meaningful estimate of price influence and sampling influence.

Conclusion and Directions for Future Research

The study investigated consumer behavior to sampling activity at farmers’ markets. The research provides some interesting findings. First, the study demonstrated consumers’ trust in farmers’ markets food system has the most significant impact on the consumer sampling decision. Consumers with higher levels of trust are more willing to take free samples because they don’t worry about food quality and food safety. Consumers generally have a higher level of trust in fair price at farmers’ markets, food quality at farmers’ markets and word-of-mouth publicity associated with farmers’ markets than with grocery stores, but lower levels at farmers’ markets for trust in food safety, labeling system, and traceability. Consumers’ trust emerges with frequent shopping activity, by younger male consumers, and by those who live

closer to farmers' markets. Internet-based social organization have a positive effect on trust and non-internet social organization have a positive effect on sampling.

We identified specific reasons to accept samples and to reject samples. Sampling motivations related to what we termed affiliation motivation, which emphasizes the significance of consumers' affiliation for samples. It gives vendors a hint that to attract samplers, two aspects need to be considered. Well-trained friendly vendors are preferred by consumers. Samples following a certification process is preferred by consumers, which indicates that a centralized farmers' market sampling booth is preferred.

As for reason why consumers don't sample, passive rejection is the most important. Consumers have an instinct to explore desirable foods so these persons want a unique sampling experience. But, if consumers are faced with the pressure to purchase from an unfriendly vendor, or shopping in a crowded environment, they will reject sampling passively. In summary, friendliness may not be a determinant in consumers' decision to sample or not to sample, but a friendly vendor plays an important role as to whether the consumer sampling experience is enjoyable.

As a promotional tool, sampling positively impacts consumer behavior both in short-term and long-term (Heilman et al., 2011). The current study found consumers react to sampling in two ways, affective reaction and practical reaction. An enjoyable sampling experience firstly arouses consumer's affection towards the product. This, in turn, leads to a direct purchase following word-of-mouth coming from consumers of farmers' markets. These practices lead to subsequent purchase behavior and an increase in unplanned product purchases. It is reasonable to make this assessment because it can explain how short-term and long-term

impact generates.

As for food products, it is generally agreed that sampling experiences are more enjoyable, which is derived from the high satisfaction of psychological elements including a harmonious sampling environment with friendly vendors. The assessment of survey respondents concluded that free samples of food products are not adequately available at farmers' markets.

A future research direction is to investigate how effective sampling will be under a complex promotion situation with reference to prices, and to what extent the post sampling experience will impact price relevance to the decision. Another valuable extension is to see how much sampling contributes to sales improvement, how vendors manage sampling's cost and increased income, and how consumers' actual purchase behavior change after sampling in future. We believe these may provide valuable insights for future research.

References

- United States Department of Agriculture. New Data Reflects the Continued Demand for Farmers Markets. Release No.0167.14. Retrieved January 16, 2016, from <http://www.usda.gov/wps/portal/usda/usdahome?contentid=2014/08/0167.xml>
- United States Department of Agriculture. 2006. USDA Releases New Farmers Market Statistics. AMS No.281-06, Washington, DC: AMS.
- Amemiya, T. (1978). The estimation of a simultaneous equation generalized probit model. *Econometrica: Journal of the Econometric Society*, 1193-1205.
- Amor, I. B., & Guilbert, F. (2007). The effect of product sampling on brand image. *DEVELOPMENTS IN MARKETING SCIENCE*, 30, 139.
- Babin, B. J., Darden, W. R., & Griffin, M. (1994). Work and/or fun: measuring hedonic and utilitarian shopping value. *Journal of consumer research*, 644-656.
- Baker, D., Hamshaw, K., & Kolodinsky, J. (2009). Who shops at the market? Using consumer surveys to grow farmers' markets: Findings from a regional market in northwestern Vermont. *Journal of Extension*, 47(6), 1-9.
- Balsam, A., Webber, D., & Oehlke, B. (1994). The farmers' market coupon program for low-income elders. *Journal of Nutrition for the Elderly*, 13(4), 35-42.
- Bettinger, C. O., Dawson, L. E., & Wales, H. G. (1979). IMPACT OF FREE-SAMPLE ADVERTISING. *Journal of Advertising Research*, 19(3), 35-39.
- Brown, C., & Miller, S. (2008). The impacts of local markets: a review of research on farmers markets and community supported agriculture (CSA). *American Journal of Agricultural Economics*, 90(5), 1298-1302.
- Cai, L. (2010). The relationship between health and labour force participation: Evidence from a panel data simultaneous equation model. *Labour Economics*, 17(1), 77-90.
- Conrey, E. J., Frongillo, E. A., Dollahite, J. S., & Griffin, M. R. (2003). Integrated program enhancements increased utilization of Farmers' Market Nutrition Program. *The Journal of nutrition*, 133(6), 1841-1844.
- Cowee, M. W., Curtis, K. R., & Gatzke, H. (2009). *Marketing Farmers' Markets: Ideas for Market Vendors & Managers in Nevada*: University of Nevada Cooperative Extension.
- Dey, D., Lahiri, A., & Liu, D. (2013). Consumer learning and time-locked trials of software products. *Journal of Management Information Systems*, 30(2), 239-268.
- Dolgoplova, I., Teuber, R., & Bruschi, V. (2015). Consumers' perceptions of functional foods: trust and food-neophobia in a cross-cultural context. *International Journal of Consumer Studies*.
- Dong, D. (2010). *Promoting fruit and vegetable consumption: are coupons more effective than pure price discounts?* : DIANE Publishing.
- Freedman, A. M. (1986). Use of free product samples wins new favor as sales tool. *Wall Street J*, 19.
- Heckman, J. J. (1977). Dummy endogenous variables in a simultaneous equation system: National Bureau of Economic Research Cambridge, Mass., USA.
- Heilman, C., Lakishyk, K., & Radas, S. (2011). An empirical investigation of in-store sampling promotions. *British food journal*, 113(10), 1252-1266.

- Heilman, C., Lakishyk, K., Radas, S., & Nakamoto, K. (2004). The Effect of In-Store Free Samples on Short-and Long-Term Purchasing Behavior. *White Paper, McIntire School of Commerce, University of Virginia, Charlottesville, VA.*
- Holmes, J. H., & Lett, J. D. (1977). Product sampling and word of mouth. *Journal of Advertising Research.*
- Hunt, A. R. (2007). Consumer interactions and influences on farmers' market vendors. *Renewable Agriculture and Food Systems, 22(01), 54-66.*
- Katchova, A. L., & Woods, T. A. (2011). Local Food Procurement and Promotion Strategies of Food Cooperatives. *Selected Paper.*
- Kezis, A., Gwebu, T., Peavey, S., & Cheng, H.-T. (1998). A study of consumers at a small farmers' market in Maine: Results from a 1995 survey. *Journal of Food Distribution Research, 29, 91-99.*
- Klopčič, M., Hocquette, J.-F., Kuipers, A., & ebrary, I. (2013). *Consumer attitudes to food quality products [electronic resource]: emphasis on Southern Europe* (Vol. 133.;no. 133.;). Wageningen: Wageningen Academic Publishers.
- Kohls, R. L., & Uhl, J. N. (1972). *Marketing of agricultural products* (Vol. 55): Macmillan.
- Laran, J., & Tsiros, M. (2013). An investigation of the effectiveness of uncertainty in marketing promotions involving free gifts. *Journal of Marketing, 77(2), 112-123.*
- Marks, L. J., & Kamins, M. A. (1988). The use of product sampling and advertising: Effects of sequence of exposure and degree of advertising claim exaggeration on consumers' belief strength, belief confidence, and attitudes. *Journal of Marketing Research, 266-281.*
- McGuinness, D., Gendall, P., & Mathew, S. (1992). The effect of product sampling on product trial, purchase and conversion. *International Journal of Advertising, 11(1), 83-92.*
- Meyer, E. (1982). Sampling builds better business. *Advertising Age, 12.*
- Murtagh, F., & Heck, A. (2012). *Multivariate data analysis* (Vol. 131): Springer Science & Business Media.
- Ngobo, P. V. (2011). What Drives Household Choice of Organic Products in Grocery Stores? *Journal of Retailing, 87(1), 90-100.* doi: 10.1016/j.jretai.2010.08.001
- Paul, J., & Rana, J. (2012). Consumer behavior and purchase intention for organic food. *Journal of Consumer Marketing, 29(6), 412-422.*
- Payne, T. (2002). *US Farmers Markets, 2000: A Study of Emerging Trends*: US Department of Agriculture, Marketing and Regulatory Programs, Agricultural Marketing Service, Transportation and Marketing Programs, Marketing Services Branch.
- Quester, P. G., & Smart, J. (1996). Product involvement in consumer wine purchases: Its demographic determinants and influence on choice attributes. *International Journal of Wine Marketing, 8(3), 37-56.*
- Slama, M. E., & Tashchian, A. (1985). Selected socioeconomic and demographic characteristics associated with purchasing involvement. *The Journal of Marketing, 72-82.*
- Suarez-Balcazar, Y., Martinez, L. I., Cox, G., & Jayraj, A. (2006). African Americans' views on access to healthy foods: what a farmers' market provides. *Journal of Extension, 44(2), 1-11.*

- Varner, T., & Otto, D. (2008). Factors affecting sales at farmers' markets: an Iowa study. *Applied Economic Perspectives and Policy*, 30(1), 176-189.
- Williams, B., Brown, T., & Onsman, A. (2012). Exploratory factor analysis: A five-step guide for novices. *Australasian Journal of Paramedicine*, 8(3), 1.
- Wolf, M. M. (1997). A target consumer profile and positioning for promotion of the direct marketing of fresh produce: A case study. *Journal of Food Distribution Research*, 28(3), 11-17.
- Wolf, M. M., Spittler, A., & Ahern, J. (2005). A profile of farmers' market consumers and the perceived advantages of produce sold at farmers' markets. *Journal of Food Distribution Research*, 36(1), 192-201.
- Wyss, G. D., & Jorgensen, K. H. (1998). A user's guide to LHS: Sandia's Latin hypercube sampling software. SAND98-0210, Sandia National Laboratories, Albuquerque, NM.